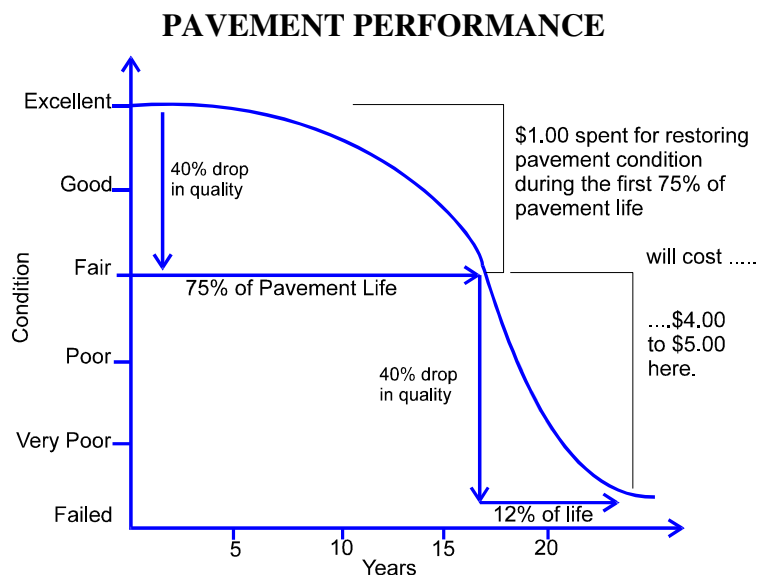


## PAVEMENT CONDITION

A significant investment the State, cities, and towns make in the transportation infrastructure involves highway pavements. Because pavements represent such a large investment, they deserve constant attention to keep them in good condition to support the level of service for which they were designed. Poorly maintained surfaces increase travel time, decrease the capacity of the road, create unsafe conditions for the traveling public, and increase maintenance costs for the state and municipalities (roads) and the traveling public (personal vehicles). The cost to rehabilitate pavements increases dramatically when the restorative treatment is delayed beyond a reasonable time frame. The best pavement rehabilitation treatments are determined through pavement management systems (PMS). A major upgrade to the Department's PMS is currently underway.

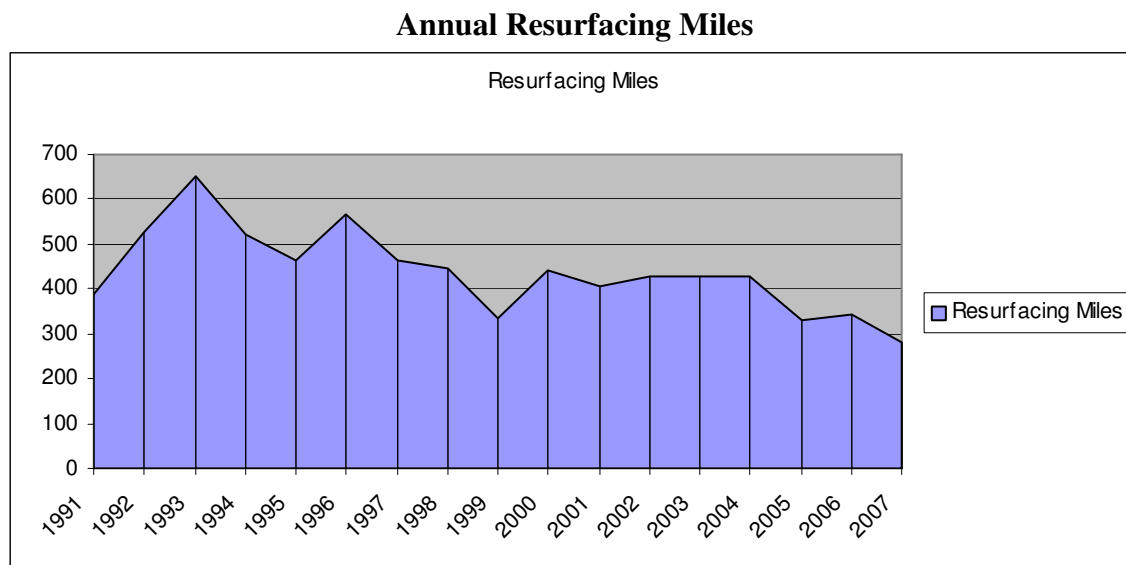
New Hampshire's pavement management plan depends on the experience and suggestions of maintenance personnel who "live" with the roads on a daily basis. Their observations, together with information provided by pavement condition data collection efforts and the PMS are used to develop annual pavement rehabilitation plans.



The above curve demonstrates the advantage of timely treatment to contain costs for rehabilitating a typical stretch of roadway. The curve is representative for a road with a design life of about twenty years. A slow decline in pavement condition, followed by a much sharper decline is typical. Minor pavement maintenance before year 15 will generally restore the pavement condition for about five years. If treatment is delayed for another 3 years, it will cost 4 to 5 times more than the minor treatment. Consequently, fixing the worst first is not necessarily the best policy.

Following 1991, increased funding allowed more resurfacing work to be accomplished with more extensive treatments. Subsequently, with increased costs and other priorities the mileage of

resurfacing work has leveled off and, to a degree, has somewhat declined. The 2006 paving season saw a marked increase in pavement costs. In response to this increase, the Department is looking at increasing the funding level for resurfacing. The following chart shows the number of resurfacing miles each year since 1991:



The 2007 Resurfacing Plan involved approximately 305 miles of needs. The following table along with the accompanying map illustrates pavement condition in the state based on 2005 and 2006 pavement condition data.

Pavement Condition	Miles *	Color
No Work Required	867	Green
Some Work Required	1978	Yellow
Major Work Required	1628	Red
Unrated	125	Gray
<b>Total</b>	<b>4,598</b>	

\* Out of 4,598 miles of the State highway system, 4,473 miles were surveyed in 2005-2006 relative to road condition

### Expected Future Conditions

The expected future condition of NH's pavements is based on a number of factors. These include, but are not limited to, the type and depth of base material, the most recent date of construction, traffic and heavy truck volumes, and roadway drainage features. If this information is known for a particular roadway, some assumptions can be made to predict a pavement's future condition. Many roads in the state have evolved from old wagon trails or cow paths, with little done over the intervening years to address subgrade issues. For those roads that are newer, designs include good base structure and material to support the pavement on top.

Pavements built with substantial base courses generally require little work until 15 years after construction. If the road is maintained and resurfaced every 8-12 years, the pavement should remain in a good condition nearly indefinitely.

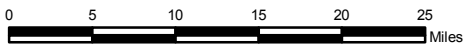
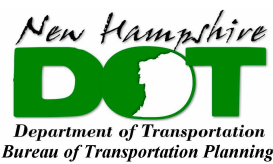
Pavements that evolved out of some former type of trail or path typically have little or no structural support under the pavement. Because of this, maintenance is required more frequently. Roads like these will typically be in fair condition at best or in poor condition at worst. Unless there is complete reconstruction, it is unlikely the road will be in good or excellent condition. Typically, any resurfacing or other maintenance project will show only an improvement for a very short period of time (perhaps 5 years) before it is back to fair/poor condition again.

The NHDOT's current philosophy is to keep roadways that are the most widely used in good condition. These roads are most likely to have been constructed or reconstructed with a good base, due to the amount of traffic using the road. Increased preservation funding for the Statewide Interstate Pavement Preservation Programs (IPP) and Federal Resurfacing Programs are included in the Plan to keep up with these needs.

Less traveled, poor condition roads, though treated regularly, are seldom in better than fair condition. The prohibitive cost of complete reconstruction prevents a better solution to the problem. The Highway Maintenance Districts have begun a plan of "Low Cost Reconstruction" to address these roads. Less expensive than normal reconstruction, this plan includes upgrading highway drainage, recycling pavement, and resurfacing. Otherwise these roads receive periodic thin overlays which are intended to seal and bind together to the degree possible the existing pavement, in an effort to keep the road passable. Increased Preservation Funding for secondary roadway system pavement work is included to continue to address these needs.

One of NHDOT's goals is to address roads in poor condition. The major objective for the future will be to upgrade those roads in poorer condition, while maintaining and preserving those in good condition. Newer technologies and maintenance techniques, such as thicker overlays, the use of paving fabrics/reinforcement, and preventative maintenance treatments, are being investigated, to increase pavement service life. The Department has also started to include crack sealing as part of the yearly resurfacing plan. Studies have shown that crack sealing can extend a life of a pavement by 2 years. Continued funding and local project ranking will remain important elements in addressing low volume highways on the State's system.

# PAVEMENT CONDITION



Map Based on Year 2006 Data

Roads rated on this map are the numbered roads on the state maintained highway system. The level of work required is based on the roughness of the data collected as of November, 2006.

No Work Required  
(RCI 3.5-5.0) (867 Miles)

Some Work Required  
(RCI 2.51-3.49) (1978 Miles)

Major Work Required  
(RCI 0-2.50) (1628 Miles)

Not Rated (125 Miles)

Urban Areas

